UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,235	04/04/2001	James Horton	10327-2U1	2498

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EXAMINER
LAM, DANIEL K

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _04 April 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-22_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-22_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

2. **Claims 1-4, 9-11, and 16-18** are rejected under 35 U.S.C. 102(b) as being anticipated by

U. S. Pat. No. 6,118,791 issued to Fichou et al (hereinafter Fichou).

Regarding **claim 1,** Fichou discloses an adaptive bandwidth control system for a

network, the network having a host computer that includes a first network interface and a

second network interface, the bandwidth control system comprising:

- A packet driver (see fig. 2, traffic source access control unit ACF, and col. 6, lines 4-

   8) adapted to be executed on the host computer (see fig. 2, switching device SW0),

   the packet driver logically connected to the first network interface (see fig. 2, adapter

   0, and col. 5, lines 66-67) and the second network interface (see fig. 2, adapter 1), the

   packet driver capturing packets received from the network on the first network

   interface (see fig. 2, traffic sources 21, 22, and 23).

- A traffic shaper (see fig. 2, connection agent CA0, and col. 6, lines 9-12) adapted to

   be executed on the host computer, the traffic shaper maintaining a topology

   representation (see fig. 2, topology data base) of the network, the topology

   representation including one or more nodes (see fig. 1, switching nodes SW0 to SW4,

   and col. 3, lines 41-45), the traffic shaper performing priority and packet rate

metering functions (see specified priority and level of bandwidth utilization on every line in col. 3, lines 64-67) on the captured packets to match a set of rate conditions unique to each node in the topology representation of the network, and returning the captured packets to the packet driver for transmission to the network on the second network interface (see fig. 2, adapter 1).

Regarding **claims 9 and 16,** Fichou discloses an adaptive bandwidth control method and an article of manufacture comprising a computer-readable medium holding computer-executable instructions for a network, the network having a host computer that includes a first network interface and a second network interface, the bandwidth control method comprising:

(a) Constructing a topology representation of the network, the topology representation including one or more nodes (see fig. 2, topology data base, and fig. 1, switching nodes SW0 to SW4, and col. 3, lines 41-45).

(b) Receiving packets from the network on the first network interface (see fig. 2, adapter 0, and col. 5, lines 66-67).

(c) Prioritizing and shaping the received packets to match a set of rate conditions unique to each node in the topology representation of the network (see specified priority and level of bandwidth utilization on every line in col. 3, lines 64-67).

(d) Transmitting the prioritized and shaped jackets to the network on the second network interface (see fig. 2, adapter 1).

Regarding **claims 2, 4, 10, and 17**, in additional to disclose the limitations in claims 1, 9 and 16 discussed earlier, Fichou further discloses the nodes in the topology

representation of the network comprise a hierarchy of arbitrary physical and logical

aggregation points that form a logical representation of the network and its underlying

physical elements (claims 2, 10, and 17) and the configuration interface specifies

operating parameters and the topology representation of the network to the traffic shaper

(claim 4). See fig. 1, switching nodes SW1 to SW4, fig 2, topology database, col. 3, lines

41-45, and col. 3, lines 60-63.

Regarding **claims 3, 11 and 18**, in additional to disclose the limitations in claims

2, 10 and 17 discussed earlier, Fichou further discloses the nodes represent elements from

the group consisting of interfaces, gateways, subnets, groups, addresses, protocols,

routers or applications (see fig. 1, switching nodes SW1 to SW4, fig. 2, adapter 0 to n).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the art to which said subject
> matter pertains. Patentability shall not be negatived by the manner in which the invention was
> made.

4. **Claims 5-8, 13-15, and 19-22** are rejected under 35 U.S.C. 103(a) as being unpatentable

over U. S. Pat. No. 6,118,791 issued to Fichou et al (hereinafter Fichou) in view of U. S.

Pat. No. 6,137,777 Vaid et al (hereinafter Vaid).

Regarding **claim 5**, although Fichou discloses the limitations in claim 4 discussed

earlier, he does not disclose the configuration interface further provides interactive

operational and statistical information concerning the traffic shaper and the topology

representation of the network maintained by the shaper.

Vaid discloses the bandwidth management tool 208 (see fig. 2, and col. 9, lines 20-31) adapted to "real" changes on any networking system and provided monitoring of flows, source address, destination address, time of the day, etc.

Therefore, it would have been obvious to those having ordinary skill in the art, at the time of invention, to have a bandwidth control system comprising a packet driver, a traffic shaper, and interactive operational and statistical information concerning the traffic shaper and the topology for a key reason. By having such features in the bandwidth control system, the network can provide more quality to telecommunication services to the users as taught by Vaid. See col. 2, lines 39-46.

Regarding **claims 6, 12, and 19**, in additional to disclose the limitations in claims 1, 9, and 16 discussed earlier, Vaid further discloses the traffic shaper maintains discrete topology representations of the network for both an inbound flow of traffic in the network and an outbound flow of traffic in the network (see col. 9, in line 20, performing incoming and/or outgoing management of information, and, in lines 22-23, traffic management tool 208 performs inbound and outbound monitoring of control of flows).

Regarding **claims 7, 13, and 20**, in additional to disclose the limitations in claims 6, 12, and 19 discussed earlier, Vaid further discloses the traffic shaper utilizes independent rate conditions for the inbound flow of traffic in the network and the outbound flow of traffic in the network in performing priority (see col. 13, lines 19-20, setting priority for a traffic class) and packet rate metering (see col. 13, lines 17-18, bandwidth limit for a traffic class) functions on the captured packets.

Regarding **claims 8, 15, and 22**, in additional to disclose the limitations in claims

1, 9 and 16 discussed earlier, Vaid further discloses the set of rate conditions unique to

each node in the topology representation of the network includes a normal rate set, which

is used when none of the node's ancestors are currently in a congested state, and a

congested rate set, which is used when one or more of the node's ancestors is currently in

the congested state (see col. 12, line 65 to col. 13, line 9, directional traffic classes for

inbound and outbound congested and non congested traffic).

Regarding **claims 14 and 21**, in additional to disclose the limitations in claims 9

and 16 discussed earlier, the step (c) further comprises:

(i) Examining the source and destination addresses of the received packets (See Fichou,

fig. 2, routing received packets from adapter 0 to adapter 1).

(ii) Pairing the received packets with shaping objects within the topology representation

of the network (see Vaid, col. 13, lines 17-18, bandwidth limits on traffic classes);

(iii) Performing priority and packet rate metering functions on the received packets (also

see Vaid, col. 13, lines 17-20, bandwidth limits and setting priorities).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Daniel K. Lam whose telephone number is (703)

305-8605. The examiner can normally be reached on Monday-Friday from 8:30

AM to 4:30 PM.

If attempt to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone

number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status Information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKL
August 14, 2004

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SUPERVISORY PATENT EXAMINER
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